| No.   Dep.   Dep | 7-07              | <u>67</u>  | 11-0          | ref  | 1-75                | NO.<br>0/0/4<br>WT(S) | APPLIC         | CLAIMS ONLY    |          |  |               |  |  |  |             |  |
|--|-------------------|--|---------------|--|---------------------|-----------------------|----------------|----------------|----------|--|---------------|--|--|--|-------------|--|
| AS FILED   |                   |  |               |  |                     |                       | AIMS           | •              |          |  | -             | <del>/</del>                                     | 103  | 9/3  |             |  |
| NO.   DEP.   DEP.  | k                 | *  |               | 1*   |                     | *                     | AINIS          |                | AF7      | TER  | AF            |  | ·  |  |             |  |
| 51   |                   |  |               | ļ. <u></u>                                       | · · ·               | <u> </u>              |                | NDMENT         | 2nd AME  | NDMENT   | 1st AME       |  |  |  |             |  |
| 2       3       4       4       55       53       54       55       56       66       7       7       7       55       56       57       8       9   | IND. DEP.         | IN   | DEP.          | IND.   | DEP.                | IND.                  |                | DEP.           | IND.     | DEP.   | IND.          | DEP.   | ID.  | II.  |             |  |
| 3       4       4       53       54       55       56       67       55       55       56       57       58       58       59       60       60       61       61       62       63       61       61       61       62       63       64       64       64       64       64       65       66       66       66       66       67       68       69       70       71       72       73       74       72       73       74       73       74       73       74       74       73       74       74       75       76       77       76       77       76       77       76       77       78       78       78       78       78       78       80       83       83       83  |                   | —  | <del> </del>  |  |                     | -                     |                |                |          |  | -             | <del>                                     </del> | <del>}</del>                                     | -  |             |  |
| 4       5         5       6         7       7         8       9         9       59         10       60         61       62         62       63         64       64         15       66         17       66         18       7         19       7         20       7         21       7         22       7         23       7         24       7         25       7         26       7         27       7         28       7         29       7         30       7         31       8         32       1         33       8         34       84         35       88         39       9         40       91         41       91         42       92         43       94         44       94         45       95         46       96         47 <td></td> <td><del></del></td> <td><del> </del></td> <td></td> <td></td> <td>-</td> <td>ļ</td> <td>· · ·</td> <td></td> <td></td> <td>-</td> <td><del>                                     </del></td> <td>-</td> <td></td> <td></td>   |                   | <del></del>                                      | <del> </del>  |  |                     | -                     | ļ              | · · ·          |          |  | -             | <del>                                     </del> | -  |  |             |  |
| 5         6         6         55         56         57         58         59         57         58         59         60         60         60         61         62         60         61         62         61         62         63         64         61         62         63         64         64         65         66         66         66         67         68         66         66         67         68         69         70         71         71         72         72         73         73         74         72         73         74         73         74         74         75         76         77         75         76         77         77         76         77         77         78         79         90         90         90         90         90         90         90         90         90         90         90 <td></td> <td>+-</td> <td><del> </del></td> <td></td> <td></td> <td></td> <td>}<del></del></td> <td><del> </del></td> <td><u> </u></td> <td></td> <td></td> <td>+-1</td> <td>-</td> <td>-</td> <td></td>  |                   | +-   | <del> </del>  |  |                     |                       | } <del></del>  | <del> </del>   | <u> </u> |  |               | +-1  | -  | -  |             |  |
| 6  |                   | _  | <del> </del>  | <u> </u>   |                     | -                     |                |                |          |  |               | <del>  /</del>                                   | +  | -  |             |  |
| 7         7         8         57         58         59         10         60         61         61         61         61         61         62         62         62         63         64         62         63         64         64         65         66         65         66         65         66         67         68         68         69         69         69         69         69         69         69         69         69         69         70         70         71         71         72         73         74         74         74         74         74         74         74         74         74         74         74         75         76         77         77         77         77         77         77         77         77         77         77         77         78         80         80         81         82         83         83         84         82         83         83         84         85         86         86         86         86         86         86         86         86         86         86         86         86         86         86         86         86         86         86 <td><del></del></td> <td></td> <td><del> </del></td> <td></td> <td><u> </u></td> <td><del> </del></td> <td><del></del></td> <td><del> </del></td> <td></td> <td></td> <td>-</td> <td><del> /</del></td> <td>+</td> <td></td> <td></td>  | <del></del>       |  | <del> </del>  |  | <u> </u>            | <del> </del>          | <del></del>    | <del> </del>   |          |  | -             | <del> /</del>                                    | +  |  |             |  |
| 8 9 6 58 59 60 60 111 12 12 14 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16  | <del></del>       |  | <del> </del>  |  |                     |                       | <del></del>    | <u> </u>       |          |  |               | 1  | +  | 1  |             |  |
| 9  |                   | <del>                                     </del> | <del> </del>  | <del></del>                                      |                     | 1                     | <del></del>    | <del> </del>   |          |  |               | 1  | $\neg \forall$                                   |  |             |  |
| 11   |                   | 1  |               |  |                     |                       | <del>}</del>   | ļ.             |          |  |               |  | $\overline{\Lambda}$                             |  | 9           |  |
| 12   |                   | 1  |               |  |                     |                       | 60             |                |          |  |               |  | $\overline{D}$                                   |  | 10          |  |
| 13   |                   |  |               |  |                     |                       | 61             |                |          |  |               | 1  | <u> </u>   |  | <del></del> |  |
| 14         64           15         66           16         7           17         66           18         66           19         68           20         7           21         70           21         70           22         7           23         7           24         7           25         7           26         7           27         7           28         7           29         7           30         7           31         7           32         7           33         81           32         7           33         83           34         83           35         86           36         86           37         88           39         89           40         90           41         91           42         92           43         94           44         95           45         96           46         97  | ·                 |  |               |  |                     |                       | 62             |                | · .      |  | <del> </del>  | 1  | <u> </u>   | _  |             |  |
| 15   | -                 |  |               |  |                     |                       |                |                |          |  |               | 1  |  |  |             |  |
| 16       17       18       66       67       68       69       68       69       69       69       69       69       70       70       70       71       70       70       71       71       72       73       73       74       72       73       74       74       74       74       74       75       76       77       77       77       78       79       78       79       78       79       78       79       78       79 <td< td=""><td></td><td></td><td></td><td>1</td><td></td><td>ļ</td><td><b> </b></td><td></td><td></td><td></td><td>ļ</td><td><del>                                     </del></td><td></td><td></td><td></td></td<>  |                   |  |               | 1  |                     | ļ                     | <b> </b>       |                |          |  | ļ             | <del>                                     </del> |  |  |             |  |
| 17   |                   |  |               |  |                     | <u> </u>              | -              |                |          |  | <del> </del>  | +  |  | -  |             |  |
| 18       /       68       68       68       69       70       70       70       71       72       72       73       71       72       73       74       72       73       74       74       74       74       74       74       74       74       75       75       76       77       76       77       78       78       79       78       79       78       79       80       81       83       83       83       83       83       83       83       84       84       85       86       85       86       85       86       86       85       86       86       86       86       86   |                   |  |               | <u> </u>   |                     | ļ                     |                |                |          | <del>                                     </del> | <del> </del>  |  | 7  |  |             |  |
| 19   |                   |  |               |  |                     | ļ                     | <del></del>    |                |          | <u> </u>   | <del></del>   | -  | <del>/                                    </del> | <del> </del>                                 |             |  |
| 20   |                   |  |               |  |                     | <del> </del>          | <del></del>    |                |          |  |               | -  |  | 1-   |             |  |
| 21       /         22       /         23       /         24       /         25       /         26       /         27       /         28       /         29       /         30       /         30       /         31       /         32       /         33       80         31       /         33       82         33       83         34       83         35       86         37       88         39       88         40       90         41       90         42       92         43       94         44       94         45       96         46       97         48       98         50       90  |                   |  | · · · · · ·   | <del>                                     </del> | ·                   | -                     |                |                |          |  |               | 1-7  |  |  | <del></del> |  |
| 22       /         23       /         24       /         25       /         26       /         27       /         28       /         29       /         30       /         31       /         32       /         33       34         34       82         35       83         36       86         37       88         39       88         40       91         41       91         42       92         43       94         44       94         45       96         46       97         48       99         50       100  |                   | +-   |               | ·  |                     |                       | <del></del>    |                |          |  |               | 1  |  |  | 21          |  |
| 23       /         24       /         25       /         26       /         27       /         28       /         29       /         30       /         31       /         32       /         33       -         34       -         35       83         36       85         37       88         39       88         40       90         41       92         43       94         44       94         45       96         47       97         98       99         99       99         99       99  | <u> </u>          |  | <del></del>   | ·  | <u>-</u> -          |                       | }              |                |          |  |               |  |  |  | 22          |  |
| 24       /         25       /         26       /         27       /         28       /         29       /         30       /         31       /         32       /         33       80         31       82         82       83         83       84         85       86         87       88         86       87         38       88         39       89         40       90         41       90         42       91         43       93         44       94         45       96         47       98         49       99         50       100  | <del></del>       | ┽—   | ·             |  | ··                  |                       | <del></del>    |                |          |  |               |  |  |  | 23          |  |
| 25   |                   | +-   |               |  |                     |                       |                |                |          |  |               |  |  |  | 24          |  |
| 26       /       76       77       78       78       79       30       78       79       30       79       30       80       31       81       32       32       33       34       32       33       34       34       34       35       83       34       34       34       35       86       83       34       34       34       35       36       36       36       36       36       36       36       36       36       36       36       36       36       36       36       36       37       37       38       38       38       38       38       38       39       38       39       38       39       38       39       38       39   | <del></del>       | +  |               |  |                     | <del></del> -         | <del></del>    |                |          |  |               | 1  | ·  | 1  |             |  |
| 27       /       77       78       79       30       /       79       30       /       80       31       79       30       /       80       31       80       31       31       82       33       34       82       33       34       82       33       34       83       34       83       34       84       33       34       84       33       34       84       33       34       86       85       86       37       38       86       86       37       38       88       89       90       44       44       90       90       91       91       92       93       94       94       94       94       94       95       96       97       98       98       99       99       90<  | <del></del>       |  |               |  | , -                 |                       |                |                |          |  |               |  |  | 1/   |             |  |
| 29     /       30     /       31     /       32     /       33     82       34     82       35     84       36     86       37     88       38     88       39     89       40     90       41     91       42     92       43     94       45     95       46     95       47     98       49     99       50     100   | <del></del>       | +  |               |  |                     |                       |                |                |          |  |               | -  |  | <u>                                     </u> |             |  |
| 30     /       31     /       32     /       33     82       34     82       35     83       36     85       37     86       39     88       39     88       40     90       41     90       42     91       43     92       43     94       45     95       46     96       47     96       48     99       50     100  | <del></del>       | +  |               |  |                     |                       | 78             |                |          |  |               | <i> </i> -                                       |  |  |             |  |
| 31     1       32     1       33     82       34     83       35     84       36     85       37     86       39     87       39     88       40     90       41     91       42     91       43     92       44     94       45     95       46     95       47     96       47     97       48     99       50     100   |                   | +  | <del></del>   |  |                     |                       | 79             |                |          |  |               | <i>[.</i>  |  |  |             |  |
| 32     /       33     82       34     83       35     84       36     85       37     86       38     87       39     88       40     90       41     91       42     92       43     93       44     94       45     95       46     96       47     97       48     98       49     99       50     100  |                   | <del>                                     </del> |               |  |                     |                       | 80             |                |          |  |               | - ( .  |  | <del> </del> -                               |             |  |
| 33     82       34     83       35     84       36     85       37     86       38     87       39     88       40     90       41     91       42     92       43     93       44     94       45     96       46     96       47     97       48     98       49     99       50     100   | -                 | 1  |               |  |                     |                       | <u> </u>       | ···            |          |  |               | <u>r</u>   | -  | +-   |             |  |
| 34       83         35       84         36       85         37       86         38       87         39       88         40       90         41       91         42       91         43       92         44       93         45       95         46       96         47       97         48       98         49       99         50       100   |                   |  |               | <u>.</u>   |                     |                       |                |                |          |  |               |  | _  |  |             |  |
| 35     84       36     85       37     86       38     87       39     88       40     90       41     91       42     91       43     92       43     93       44     94       45     95       46     96       47     97       48     98       49     99       50     100   |                   |  |               |  |                     |                       |                |                |          | <b></b> }-                                       |               |  | $\exists$  |  |             |  |
| 36     85       37     86       38     87       39     88       40     90       41     91       42     91       43     92       43     93       44     93       45     95       46     96       47     97       48     98       49     99       50     100   |                   |  |               |  |                     |                       | <del></del>    |                |          |  |               |  | -  | -  |             |  |
| 37     87       38     88       39     88       40     90       41     91       42     92       43     92       44     94       45     95       46     96       47     96       48     98       49     99       50     100   |                   |  |               |  |                     | <u>-</u>              |                | <u> </u>       |          |  |               |  | _  |  |             |  |
| 38       88         39       90         40       90         41       91         42       92         43       92         44       94         45       95         46       96         47       97         48       98         49       99         50       100   | ·                 | ↓  |               |  |                     |                       |                | <del></del>    |          |  | <del></del> + | •  | $\neg \uparrow$                                  |  | 37          |  |
| 39       89         40       90         41       91         42       92         43       93         44       93         45       95         46       96         47       97         48       98         49       99         50       100   | <u>.</u>          | ╀  |               |  |                     | <del></del>           |                |                |          |  |               |  |  |  | 38          |  |
| 40       90       91         41       91       92         43       92       93         44       94       94         45       95       96         47       97       98         48       99       99         50       100       100  |                   | -  |               |  |                     |                       | <del> </del>   | <del> </del>   |          |  |               |  |  |  | 39          |  |
| 41       91       92         43       92       93         44       94       94         45       95       96         47       97       98         48       98       99         50       100   |                   | <del> </del>                                     |               |  | -                   |                       |                |                |          |  |               |  |  |  |             |  |
| 42     92       43     93       44     94       45     95       46     96       47     97       48     98.       49     99       50     100  | <del></del>       | <del> </del>                                     |               |  |                     | <del></del>           | <del></del>    |                |          |  |               |  |  |  |             |  |
| 44       45       46       47       48       49       50   |                   | <del> </del>                                     |               |  |                     |                       | <del></del>    |                |          |  |               |  |  | <del> </del>                                 |             |  |
| 45       46       47       48       49       50  |                   | <del>                                     </del> |               |  |                     |                       | 93             |                |          |  |               |  |  | -  |             |  |
| 46       47       48       49       50   | <del></del>       | <b></b>  |               |  |                     |                       | 94             | _ <u>·</u> _ ] |          |  |               |  |  | <u> </u>                                     |             |  |
| 47       48       49       50  | -                 | ·  |               |  |                     |                       | 95             |                |          |  |               |  |  | <del> </del>                                 |             |  |
| 48<br>49<br>50<br>98:<br>99<br>100   |                   | 1  |               |  |                     |                       |                |                |          |  |               |  | -+   | <del> </del>                                 |             |  |
| 49<br>50<br>99<br>100  |                   |  |               |  |                     |                       |                |                |          |  |               |  | +  | -  |             |  |
| 50   |                   |  |               |  |                     |                       | } <del>-</del> |                |          |  |               |  | +  | <del> </del>                                 |             |  |
|  |                   |  |               |  |                     |                       | <u> </u>       |                |          | <del></del>                                      |               |  | -+   | _  |             |  |
| TOTAL 1  |                   |  |               | · ·  |                     |                       | <del></del>    |                |          |  |               |  | +  | 2  | TOTAL IND.  |  |
|  |                   |  | 1             |  | # -                 |                       | IND.           | _ <b>↓</b>     |          | _  |               |  | لع   | 7_   |             |  |
| TOTAL DEP.   |                   | <u> </u>   | <b>—</b>      |  | <b>=</b>            |                       | TOTAL          | -              |          |  |               | acue.  | ~  | 1/1  | DEP.        |  |
| TOTAL CLAIMS DEP. TOTAL CLAIMS   | Constitution of a | <del> </del>                                     | in the second |  | \$42 5 577<br>17 27 | 3:                    | TOTAL          |                | 3        |  |               |  |  | 10   | CLAIMS      |  |
| * MAY BE USED FOR ADDITIONAL CLAIMS OR ADMENDMENTS   |                   | <u> </u>   |               |  |                     |                       |                | R ADDITIO      | USED FO  |  |               |  |  | •  |             |  |
| FORM PTO-2022 (1-98)  U.S.DEPARTMENT O Patent and Trademark  | COMMERCE          | r of c   | RTMENT        | J.S.DEPA   |                     |                       |                |                |          |  |               | )  | (1-98)   | O-2022                                       | FORM PT     |  |